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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
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03/804,909 02/25/97 TZANNES M 6008/54140

LM02/1230

MARTIN J. O'DONNELL
CESARI AND MCKENNA, LLP
30 ROWES WHARF
BOSTON MA 02110

EXAMINER

TRAN. K

ART UNIT PAPER NUMBER

2731

13

DATE MAILED:

12/30/99

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Please find below and/or attached an Office communication concerning this application or proceeding.

Commissioner of Patents and Trademarks

Office Action Summary

Application No. 08/804,909	Applicant(s) TZANNES et al
Examiner Khai Tran	Group Art Unit 2731

Responsive to communication(s) filed on Aug 18, 1999

This action is FINAL.

Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under Ex parte Quayle 35 C.D. 11; 453 O.G. 213.

A shortened statutory period for response to this action is set to expire three month(s), or thirty days, whichever is longer, from the mailing date of this communication. Failure to respond within the period for response will cause the application to become abandoned. (35 U.S.C. § 133). Extensions of time may be obtained under the provisions of 37 CFR 1.136(a).

Disposition of Claim

- Claim(s) 1-3 is/are pending in the application.
Of the above, claim(s) _____ is/are withdrawn from consideration.
- Claim(s) _____ is/are allowed.
- Claim(s) 1 is/are rejected.
- Claim(s) 2 and 3 is/are objected to.
- Claims _____ are subject to restriction or election requirement.

Application Papers

- See the attached Notice of Draftsperson's Patent Drawing Review, PTO-948.
- The drawing(s) filed on _____ is/are objected to by the Examiner.
- The proposed drawing correction, filed on _____ is approved disapproved.
- The specification is objected to by the Examiner.
- The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. § 119

- Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).
- All Some* None of the CERTIFIED copies of the priority documents have been
- received.
- received in Application No. (Series Code/Serial Number) _____
- received in this national stage application from the International Bureau (PCT Rule 17.2(a)).
- *Certified copies not received: _____
- Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

Attachment(s)

- Notice of References Cited, PTO-892
- Information Disclosure Statement(s), PTO-1449, Paper No(s). _____
- Interview Summary, PTO-413
- Notice of Draftsperson's Patent Drawing Review, PTO-948
- Notice of Informal Patent Application, PTO-152

-- SEE OFFICE ACTION ON THE FOLLOWING PAGES --

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DETAILED ACTION

1. The amendment A filed on 8/18/1999 has been entered. Claims 1-3 are pending in this Office action.

Claim Rejections - 35 USC § 103

2. Claim 1 is rejected under 35 U.S.C. 103(a) as being unpatentable over Chow et al (U.S. Pat. 5,479,447).

As per claim 1, Chow et al disclose a communication system for sending a sequence of symbols on a communication link as shown in Fig. 1 comprising a communication channel (26) for transmitting the sequence of symbols; a clock for defining successive frames (e.g., bits are grouped into blocks such as frames, see col. 1, lines 27-30); a modulator (a multicarrier modulator 16) for modulating each of M carrier signals with a signal related to the value of one of the symbols thereby generating a modulated carrier signal and for generating a sum signal comprising a sum of the modulated carrier signals (see Fig.1). Chow et al fail to disclose an output circuit for transmitting the sum signal on the communication link, wherein the carrier signals comprise first and second carriers in which the first carrier having a different bandwidth than the second carrier. However, Chow et al disclose that the multicarrier modulation is known a Discrete Multitone (DTM) modulation, therefore, the carriers

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have different bandwidth. It would have been obvious to one having ordinary skill in the art at the time the invention was made to have different bandwidth in the modulated carrier signals in order to select a desired symbol of the sequence of symbols. The motivation would reduce noise signals and increase speed of transmission signal in the communication system.

Response to Arguments

3. Applicant's arguments filed 8/18/1999 have been fully considered but they are not persuasive.

Applicant states that Chow reference does not disclose a communication system having carriers of different bandwidth as set forth in applicant's claims.

In response, Examiner asserts that Chow reference discloses a method for adaptive, variable bandwidth of a multicarrier signal over digital subscriber lines which the transmission bandwidth is determined by the symbol rate and the carrier frequency (col. 3, lines 15-57). Therefore, the carriers of different bandwidth is inherent in the variable bandwidth in order to optimize the transmission bandwidth.

Furthermore, the term "the root node" in claim 3 still lacks antecedent basis by virtue of dependency of claim 1 instead of claim 2.

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Allowable Subject Matter

4. Claims 2-3 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.
5. The following is a statement of reasons for the indication of allowable subject matter: Chow et al fail to explicitly disclose the modulator comprising an array of filter banks having M leaf nodes, each of the values related to the symbols forming an input to a corresponding one of the leaf nodes, each of the values related to the symbols forming an input to a corresponding one of the leaf nodes, each of the node, other than the leaf nodes, comprising one of the filter banks.
6. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

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7. **Any response to this final action should be mailed to:**

Box AF

Commissioner of Patents and Trademarks

Washington, D.C. 20231

or faxed to:

(703) 305-3988, (for formal communications; please mark
"EXPEDITED PROCEDURE")

or:

(703) 308-6743, (for informal or draft communications, please label
"PROPOSED" or "DRAFT")

Hand-delivered responses should be brought to Crystal Park II, 2121 Crystal Drive,
Arlington, VA., Sixth Floor (Receptionist).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to **Khai Tran** whose telephone number is **(703) 305-1876**. The examiner can normally be reached on Monday-Thursday from 9:00 AM to 5:00 PM.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, **Chi Pham**, can be reached on **(703) 305-4378**.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group receptionist whose telephone number is (703) 305-4900.

*Mt
Khai Tran
December 23, 1999*

Chi Pham

CHI H. PHAM
SUPERVISORY PATENT EXAMINER
GROUP 2700

12/27/99